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ABSTRACT

The implications of cable television (CATV) common carrier access and economic and regulatory issues associated with it are examined in this paper. The first section provides a discussion of the feasibility and legal basis of common carrier access; the next section contrasts common carrier access with existing over-the-air television broadcasting systems; a third section examines assumptions about channel availability for common carrier access; and the next two sections over rates and costs of access and costs of programming and services. A sixth section deals with cable system interests conflicting with common carrier access and includes discussions of cable systems as originators and cable system liability. The final section considers some implications for pending issues in the cable field, such as ownership, commercial substitution and local broadcasting, and CATV support for noncommercial broadcasting. (SH)

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COMMON CARRIER ACCESS TO CABLE COMMUNICATIONS: REGULATORY AND ECONOMIC ISSUES

by

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Washington, D.C.

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Cable communications is thought to open vast opportunities for diversity and creativity in informational, entertainment and instructional programming, and to establish a basis for an array of information, data and communications services not now available.

"Common carrier" operations of cable systems have become almost a cliché for the freedom of the electronic medium from the constraints of the present broadcasting structure. The purpose of this paper is to go beyond the cliché and to inquire into implications of "common carrier" operations. What are the conditions that make it possible on cable systems? What regulatory issues are raised, and what legal conditions are required? What are the economic constraints and feasibilities?

For the purpose of the paper, "common carrier" status and operation are considered to refer only to common carrier <u>access</u>, that is, a framework by which persons desiring to transmit programs or offer services over cable systems would be able to do so, and would have access to channels on a fair and nondiscriminatory basis, without interference or control by the system operator over the user's programs or services. This is the basic proposal under consideration. It can, and should, be regarded as separate and distinct from any additional rule or condition, such as rate regulation, which would require separate analysis and justification. As we shall see, regulatory patterns vary greatly, and there is no reason to adopt any array of provisions merely by force of habit or by reflexive association with the words "common carrier."

I conclude that common carrier access can be accomplished by limited regulatory intervention; namely by rules (a) requiring installation of large channel capacity, (b) imposing the above-stated duty to provide access on a fair and nondiscriminatory basis. Further regulation of rates, or of rate levels, is not necessary or appropriate in the present context. Nor does cable system origination of programming now give rise to significant regulatory problems; indeed, originations have the advantage of assuring the availability of studio and other facilities for common carrier users. Regulation of rates and originations may be required at a later stage of high cable penetration. As to other issues, it would be desirable to establish that the system operator has no liability for the activities of users, except perhaps for a duty to prevent knowing transmission of illegal matter; but this result may largely be accommondated under present law. Finally, the assurance of common carrier access will reduce technical and economic barriers and make feasible diverse programming and services. But the need for financial support for certain public interest activities will remain.

The institution of common carrier access on cable systems is desirable because it provides a means for utilizing the low-cost, multi-channel capacity of cable systems to achieve important goals of broadcasting and communications policy. These goals are economically feasible and are largely consistent with the incentives of the system operator. It is a thesis of this paper that regulatory objectives have to take account of existing industry structure and incentives, and those which would be produced by the regulation. Regulatory directives can be effective, regardless of economic interests, when

they establish objective requirements and objective tests for compliance. But propounding generalized public interest goals which are contrary to the economic incentives of the regulated parties, and are not susceptible to clear statement and objective test, is usually futile. The existing broadcasting industry affords ample evidence of the reliability of this thesis.

This paper examines the implications of common carrier access, and the economic and regulatory issues related to factors of (a) channel capacity; (b) rates and costs of access; (c) costs of programming and services; and (d) the conflicting incentives of cable system operators resulting from originations and legal liabilities.[1]

I. FEASIBILITY AND LEGAL BASIS OF COMMON CARRIER ACCESS

What are the conditions that make "common carrier" access feasible in cable communications? There are three major factors: (a) A cable system makes available a large number of channels, avoiding limitations of spectrum space in over-the-air transmission. (b) Since all channels are delivered by the same system, once a system is established the additional or unused channels involve essentially no incremental cost from the standpoint of channel availability alone. (c) A cable system can be, and now ordinarily is, operated on the basis of revenues from the system as a whole.

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1. This paper considers these issues in terms which are more or less foreseeable from the present industry structure. This is not to gainsay the value of imaginative leaps to a radically different system on common carrier principles. But radical change will depend upon economic facts not yet ascertainable (e.g., the relationship of advertiser and user charges to subscriber fees), and upon the outcome of the first generation of developments with which we deal (e.g., on over-the-air transmission, network-station arrangements, copyright rules, emergence of non-programming services).

Consequently, the operator has an interest in enhancing overall system usage, and does not have an overriding interest in the success or failure of any particular programming or service.

The result of these conditions is to establish a framework with growth capacities and incentives that are -- at least, potentially -- far different from the existing structure of broadcasting. First, the channel availability can eliminate technical obstacles to broad access. In the present context, these channels are additional to the basic cable service of carrying local and distant over-the-air signals to subscribers. Second, the availability of cable channels on an existing system reduces financial barriers to access, and distinguishes such channels from unused UHF allocations, which require substantial investment.

Third, the cable system operator should have an economic incentive to welcome use of any unused channel for an additional service, so long as the cost to him of using the channel is less than the incremental revenue received, either from an increase in the number of subscribers, from payments for uses of the channels, or both. This includes the incentive to provide, or to carry, programming or services of interest to small percentages of the television viewing audience -- in other words, to respond to minority interests in cultural terms and to local community interests. The cable system thus envisaged is not properly viewed as a competitor of existing broadcasters in the latter's function as a distributor of programming and seller of advertising. Rather, the cable system provides a method of transmitting broadcasts, a method which removes certain substantial constraints so that existing broadcasters will compete on their merits with others having access to the cable system.

In addition to entertainment or informational programming, the cable capacity can be used for various broadband services -- library access, newspaper facsimile, shopping, computer uses, etc. Expansion in these directions will tend to require greater complexity in the system, including the ability to receive individualized material, and some degree of two-way capacity.

It should be recognized that the incentives of the cable system operator will vary, depending on the size of the market, and maturity or penetration of the system. There is an obvious difference between a small market in which distant signals greatly expand the available choice, and a major metropolitan area in which the selling point will be signal quality plus programs and services provided by the system operator and users. There is also an obvious difference between a system at its early stage, and an established near-universal network. These differences mean that some operators perceive common carrier access as only marginally beneficial, and that certain regulatory responses not now needed may be called for at a later time. The basic point is that the cable system is inherently suited to common carrier access because of its low-cost, multi-channel capacity on a single-transmission network.

Common carrier access provides a method for facilitating the use of channels for diverse programming and services, the range of which will expand and develop over time. It also provides a mechanism for precluding control by the cable system operator over the large number of channels of access to the public. This is an objective shared by communications and antitrust policies.

The Federal Communications Commission has articulated the policy of common carrier access as a means of achieving diversity, local expression and other goals. On that basis, in 1969, it expressed the view that CATV's "should be encouraged, and perhaps ultimately required, to lease cable space to others." And in 1970, the FCC elaborated this policy, proposing to require reservation of channels for public access and lease to commercial users, and stressing that it was prepared "to take all appropriate actions to insure such availability (e.g., that the rates charged by such channels are reasonable and nondiscriminatory)."[2] Common carrier operation has also been foreseen for a wide variety of data, facsimile, information retrieval and computer services on interconnected cable systems, "either in competition with or supplementary to services that may be provided by the telephone companies." [3]

The Department of Justice has expressed the view that cable systems are subject to an antitrust principle which requires that entities having significant monopoly position must provide access to others on a fair and nondiscriminatory basis, and has urged that the Commission should guarantee such access.[4] Early authority for this principle was provided

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2. First Report and Order in Docket 18397, October 27, 1969; Second Further Notice of Proposed Rule Making, Docket 18397-A, July 1, 1970. In a related proceeding, the FCC declared that CATV owners would not be permitted "to deal unfairly" with newspapers seeking cable facilities for facsimile delivery, regardless of the outcome of its consideration of newspaper-CATV cross-ownership. Notice of Proposed Rule Making in Docket 18891, July 1, 1970.

3. Notices of Proposed Rule Making in Docket 18891, July 1, 1970; in Docket 18894, July 1, 1970; in Docket 18397, December 12, 1968; Final Report and Order in Docket 18509, February 4, 1970.

4. Department of Justice Comments in Docket 18397, September 5, 1969; in Docket 18397-A, December 7, 1970.

by cases dealing with a railroad terminal, various trading exchanges including the New York Stock Exchange, and a press wire service. In a number of recent filings, the Department has applied the same principle elsewhere in the communications field -- to telephone attachments, point-to-point microwave, and the satellite field.

The antitrust approach was incorporated in the White House Statement of Policy on Domestic Satellite Communications in January, 1970, which declared the right of access to common-user cooperative systems, or specialized satellite systems, by users similarly situated at equal rates and on a nondiscriminatory basis. Significantly, the access obligation has been so considered to be required, regardless of the extent to which, if at all, the industry is otherwise subject to regulation. These other situations show, moreover, that the access requirement does not necessarily carry with it any other traditional common carrier obligations and requirements.

Before turning to the issues of common carrier access, I think it useful to highlight the significance of cable system characteristics by contrasting these with the existing broadcasting structure framework.

II. OVER-THE-AIR BROADCASTING CONTRASTED

What are the conditions that have made common carrier access unfeasible in the existing over-the-air television broadcasting system?

In contrast to cable systems, over-the-air television is characterized by limited numbers of channels; a relatively high cost of establishing a station on each channel; and a combination of transmission and programming,

so that the economic return to each broadcaster is dependent upon the size of the audience attracted, paid for by commercial advertising. The resulting tendencies are accentuated by the need to establish networks in order to have an audience base to support substantial programming expenditures, and by a frequency allocation plan which has limited effective national networks to three entities thus far.

Competition among the three networks produces a common overriding incentive to go after the same maximum audience, or at least one-third of it, rather than to program for a smaller proportion. This is to be expected, and it is not changed by sporadic pressures or exhortations from outside the companies, or by expressions of goodwill within them. It follows that the networks have also competed for similar mass-appeal programming, paying increasingly higher prices, estimated in an Arthur D. Little study in 1968 to average about $87,000 for a half-hour episode of an entertainment series, $163,000 for a one-hour episode. Any effort to direct attention to specialized minority audiences, or noncommercial programming, encounters at the outset substantial cost obstacles. As the President's 1968 Task Force on Communications Policy put it, a minimum of $500,000 is required for transmitter, studio and other start-up costs; the first $1,000 per week is required simply to maintain equipment and transmit a signal. Anyone seeking to assemble a sufficient network to support high-cost programming comes up against the lack of sufficient station coverage to supply it (as computed by Alexander's "Costs of a Nationwide Television System," supplementary paper in the Carnegie Commission Report on Educational Television).

In the past, a kind of access arrangement in over-the-air broadcasting prevailed. Under this practice, advertisers themselves produced or obtained programming, and purchased time to exhibit such programming on the network's line-up of affiliated stations. Even under this arrangement, the broadcasters exercised influence and veto power, because the impact of any programming affected the economic value to them of adjacent time on the schedule. Cost factors have contributed to virtual disappearance of this form of access arrangement, because advertisers no longer want to take the risk of the success or failure of a particular show.

Under the current practice, the networks in effect develop and produce programming, mostly purchasing it from program producers. The networks sell advertising slots and insert these at breaks in the programming or adjacent to it. The cost or value of the slot to the advertiser is adjusted to the anticipated or actual audience size. The present practice tends toward each advertiser's paying approximately the same price-per-thousand, and the broadcasters largely bearing the risk of success or failure of particular shows to attract audience, averaging the risk over the entire schedule.

What are the alternatives to our existing broadcasting structure?

It seems evident that there would be greater incentive for diversity in a monopoly situation than in our three-network setup. After all, the monopoly broadcaster which satisfies 50 per cent of the audience with an adventure show on channel one, 30 per cent more with variety on channel two, would have no reason to repeat itself on channel three and would find it attractive to program for five or ten per cent on that channel. The BBC's famed "third programme" on radio exemplifies this practice. But monopoly has its own dangers. We have

opted for a diverse, largely privately-operated system which is certainly not going to be abandoned.

The alternative route to diversity is to increase the number of available channels. We could have had many more channels of equal value in over-the-air broadcasting if it had been initially placed or transferred to the UHF band. An alternative would have been to provide regional groups of allocations so that the entire nation could have had as many stations everywhere as in the leading markets of New York and Los Angeles. The Commission instead chose to interpret its mandate as requiring as many local television outlets as possible, but this had the counterproductive result of severely limiting meaningful network diversity.

Theoretically, if there were ten channels, it should become economically attractive to provide programming for five to ten per cent of the audience. (The validity of this theory is illustrated by the experience of special-interest radio stations for ethnic groups, classical music, etc.). Indeed, programming for a specialized audience could be more attractive than alternatives because of its more stable loyalties. On the other hand, there are economic constraints resulting from the costs of production and distribution of quality television programming. If these costs required an audience larger than five or ten per cent, additional channel availabilities would not be adequate to promote the desired results. As noted, support by commercial advertising has required networking on a national basis. Most non-network programming has essentially similar broad distribution, consisting of syndicated feature films, reruns of shows previously shown on a network, and some lower-cost programming developed for syndication purposes.

Economic feasibility of independent programming would be broadened if pay-television were an alternative to commercial advertising. There is little reason to doubt that the network programmers are effective in their objective of satisfying the great preponderance of the television audience. Indeed, debate in Britain has turned up arguments in favor of commercial broadcasting for the very reason that it <u>is</u> so sensitive to the audience desires and needs, more than an institution funded without regard to audience size and tending to paternalism. However, it can be readily demonstrated, by charges for other forms of entertainment and information, that a person will pay many times more for his choice of programming than an advertiser will pay for the opportunity to reach him (e.g. $2-$4 per thousand viewers for a minute of prime-time advertising for between six to ten minutes, in an hour show). Thus, pay-television could support programming for far smaller numbers of viewers. And this would be particularly true for minority programming of a special cultural nature which is desired by the most articulate critics of the low level of television material.

What may be inferred for cable systems? Like a monopoly broadcasting system, the cable system operator has the incentive to provide diversity on the system in order to attract subscribers. Moreover, like a broadcasting system with many stations, the cable system offers so many channels that there is incentive to use them for specialized minority programming. Moreover, the cost of access to channels is so low as to avoid one important hurdle to economic feasibility. The experience with networking and with programming costs, however, suggests that there are other substantial economic considerations to be resolved, if the opportunities provided by cable channel capacity are to be realized.

III. AVAILABILITY OF CHANNELS FOR COMMON CARRIER ACCESS

It has generally been assumed that cable systems would have substantial numbers of unused channels, which would provide the necessary basis for a policy of access on a common carrier basis.

This appears to be confirmed by the continuing trend to larger-capacity systems. In 1968, the President's Task Force on Communications Policy observed that 20-channel systems were technically feasible at only slightly greater cost than the 12-channel systems then being installed. In 1970, in proposing rules on technical standards, the FCC observed that 20-channel systems were being proposed by CATV operators and that there were indications that 40-channel systems could be installed without too great an incremental cost over the 20-channel systems.[5] A 42-channel system is being installed in San Jose, California; a 64-channel system in Akron, Ohio. Low incremental cost for any range of capacity now pertinent is supported by the tendency of system entrepreneurs to offer increasingly large numbers of channels as one of the attractive features of their proposed franchises.

Nevertheless, additional channel capacity does involve additional expense. A system operator could well seek to avoid the expense of installing capacity beyond the needs of the basic service offered to subscribers, i.e., carriage of the signals of local and distant over-the-air broadcasting stations, if he does not foresee sufficient demand for such capacity to defray its incremental

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5. Notice of Proposed Rule Making, Docket 18894, July 1, 1970.

cost. The filings before the FCC vary widely in the estimates of incremental costs, and significant amounts may be at stake.[6]

In any event, the issue of channel availability is easily amenable to regulatory requirement. Many municipal franchises contain minimum channel requirements; the New York City franchise required a capacity of at least 17 channels by July 1, 1971, with at least 24 channels to be provided by 1973. As suggested by the FCC, federal standards can be instituted. This would have the advantage of standardizing the minimum number of channels, and requiring all existing systems to conform within a prescribed period of time. It could also provide for additional capabilities -- community grouping within a cable system, and narrowband return for limited two-way capability, and coding for individualized transmission. Standardization would facilitate interconnection and would permit development of services that require broad distribution for economic feasibility.

The condition of channel capacity for common carrier access, therefore, can be satisfied by requiring the installation of a high-capacity system, which would be supplemented by additional standards for services beyond one-way broadcast dissemination. In a high-capacity system, common carrier access would not be limited by the number of channels available, but by other factors (the cost of programming or services, availability of advertising or other demand, support for non-profit services,etc.).

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6. For example, an economic study done for the National Cable Television Association states that 24 channels can be delivered by using amplifiers on a single-cable system, adding $300/mile to distribution costs that start at $4,000/mile for above-ground distribution and are much higher underground; or that the same capacity can be delivered by a dual-cable system which costs 80 percent more than a single-cable system.

   In addition, in order for subscribers to receive more than 12 channels, converters are required for each television set, at an estimated cost of $25.

At question is whether further regulatory conditions might be needed to allocate channels among competing uses and to reserve channels for common carrier access. The FCC has proposed prescribing specific numbers of channels for each of several different uses -- leased channels for commercial operations, local public access, instructional purposes, local government. New York City provides for city channels, public channels, company channels, and additional channels. In a 20-channel system, it should not be necessary to make such distinctions and dedications for some time to come. The only reason for allocation in the near future would arise from differences in technical features; e.g., of a channel for pay-television, of a channel with special switching capability. There would remain ample channel capacity to satisfy common carrier access.

In the long run, as the penetration of the systems increases, it is conceivable that conflicts of uses could develop. There could be a proliferation of potential program originators. With the technical capacity for individualized and two-way services, systems could be in demand for various services. Ultimately, if current over-the-air broadcast services switch to primary distribution by cable, all services would be leasing cable space. If no allocation were imposed, the cable system would tend to lease channels to the user who would pay the highest price for them. This kind of open market would have the theoretical advantage of shifting the resource to a use which presumptively has the highest economic value, as measured by the willingness to pay the highest price. However, it has significant potential disadvantages. Most obviously, there are uses whose financial resources are not the product of the market system, but of the process of legislation or voluntary philanthropy; these are the municipal services, nonprofit broadcasting, community groups, etc. An open bidding process would not measure the relative value of these uses, but rather the inconsistencies and deficiencies of allocating resources by radically different methods.

The problem is already acknowledged in the existence of the political-regulatory process by which frequencies have been allocated between commercial broadcasting and other uses of the radio spectrum, and between commercial and noncommercial broadcasting. The political-regulatory process has its own deficienc , and there has been much controversy, for example, about the scope permitted to land mobile uses of radio as compared to broadcasting. Yet the experience with spectrum allocation suggests that there may come a time when similar determinations would have to be made to prescribe a minimum number of channels available for common carrier access for program originations and for commercial services. In the meantime, the availability of a substantial number of unused channels is assured.

IV. RATES AND COSTS OF ACCESS

Traditionally, rate regulation has been associated with "public utility" or "common carrier" status in transportation and communication. Its efficacy and utility even in these traditional areas has been under severe attack in recent years, as evidenced by the critiques of regulation in the last several reports of the Council of Economic Advisors. As noted earlier, the requirements for access in other contexts have not necessarily been accompanied by rate regulation. I would suggest that common carrier access to cable systems can be achieved by a regulation imposing the requirement that access to channels be provided on a fair and nondiscriminatory basis. No further regulation of rate level or return is warranted in cable systems for the foreseeable future.

New York City has issued franchises which implement an access obligation through a provision that the system operators shall lease time (and if necessary, studio facilities) to members of the public pursuant to nondiscriminatory rates,

terms and conditions, and on "a first-come, first-served basis." The City also reserves the right to revise rates which are found to have "the effect of unreasonably restricting the use of Public Channels"; barring such rates is implicit in the access obligation. The requirement of fairness and nondiscrimination also implies that rates be pursuant to reasonable classifications (e.g., between times of day, types of use); and that rates be publicly available by publication or other means. From the standpoint of an FCC rule, there is no obvious need for formal filing of rates and no obvious place to file them. The FCC can enforce rights of access without collecting rate schedules.

Why not go further, and impose a comprehensive program of regulating rates? Such rate regulation is considered to be warranted in situations where competition is not adequate to protect against excessive rates, undue return from a monopoly franchise, discrimination or other abuse of the power. For programming distribution, cable rates are obviously limited by the existence of over-the-air broadcasting stations, which are also carried on the cable. Programmers can buy time on such stations for an opportunity to reach 100 per cent of the television audience, so the competitive rate on the cable would be at a lower rate reflecting the system's penetration. Moreover, over-the-air television time is an expensive medium only on stations, principally network affiliates, with a proved audience appeal. The competitive alternative to an unused cable channel is an independent station, such as a UHF operating part-time, whose rates are modest indeed. Since the competitive rates of over-the-air stations are unregulated, there is no reason to impose regulation on cable channel rates.

Incidentally, over-the-air broadcasting exercises similar restraint on the charges to subscribers of the cable systems. For this reason, the Department of Justice has suggested that no restriction or control of subscirber rates would be appropriate except in areas which lacked substantial over-the-air service (and in such areas, a simple rule would be to limit the rate to the level charged in comparative communities served over the air). The New York Public Service Commission report also sees no reason to "undertake general rate regulation of CATV systems at the present time."[7]

Individualized services are also subject to competitive limitations, by the rates and services of the telephone system. The latter are, of course, regulated rates. But the fact that cable service is an alternative to the telephone would no in itself necessitate regulation of cable systems. No equivalent regulation has been assumed essential for other competitors of the telephone network, such as point-to-point microwave, or specialized satellites.

This approach is supported by the difficulties of arriving at any coherent regulatory standard for regulating rate levels or rates of return. Commonly, rate levels for utilities are supposed to provide a reasonable return on investment-rate base. This traditional concept would be difficult to apply in the present situation. Cable systems have been initiated on the basis of subscriber payments. The cable operator will receive revenues from subscriber fees (which are not now regulated), and from advertising on its own program originations (which are not likely ever to be controlled),

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7. The New York Public Service Commission, however, declared that "In the event of conversion of a CATV operator to a 'communications common carrier' . . . the Commission will have authority to regulate the CATV operator's rates in the same manner as any other common carrier." The conclusion is unexplained and appears to be based solely on the assumed inherent result of calling it a "common carrier."

as well as from leased channels. An allocation of joint costs among these services is likely to be abstract in the extreme. Moreover, cable systems vary in their size and offerings. Because of their high fixed plant costs and unpredictable consumer acceptance, there are substantial risks and uncertainties. Limiting the return to any level commensurate with traditional regulatory criteria could have a significant retarding effect, and it is not clear that any benefit would be achieved.

Within the competitive constraints, cost factors clearly indicate low access barriers. Since operation of a cable system activates all available channels, the use of any individual unused channel imposes essentially no additional costs beyond the already-incurred capital investment. Costs are involved in providing equipment for the transmission of a tape or film, and in the studio facilities and crew for origination purposes.[8] But information on cable system originations supports the view that the facilities costs are also modest.

A Rand Corporation study of cable program originations indicates that in Montreal, originations of 10-30 hours weekly were done at an average of $25-50 an hour direct costs, $50-100 total costs (including studio capital investment of $100,000). A Lakewood, Ohio system transmitting originations of 30-40 hours a week did so at $31-42 an hour average cost (including studio investment of $75,000). An economic study done for the National Cable Television Association describes a standard system for cable originations having capital costs of $38,000 and annual operating expenses of $43,000; a minimum system had capital costs of $11,000, operating expenses of $10,500. Since a cable operator would be required to have origination

8. Other facilities would be required for transmission, processing and billing of specialized services, whether pay-television, individualized delivery of material, etc.

facilities to comply with the pending FCC rule, it would be to his advantage to have others use them on a common carrier basis sharing these costs.

The cable system operator will develop a rate for common carrier access which covers the direct cost of equipment and personnel attributed to the service plus a return on investment, discounted by the return expected from additional subscriber fees. If possible, he may also seek to recoup part of the capital cost of the system as a whole, to have channel users share this cost with subscribers. For programming distribution purposes, a cable system would presumably develop a flat rate per hour or other interval, varying with the time of day. For individualized services, message unit charges would be appropriate. In addition, as a matter of good community relations, or because of provisions in franchise or rule, it may be anticipated that the system would offer channel time at nominal or no fee for certain classes of public, community or nonprofit use.

Several specific issues warrant additional comment. First, there are markets in which over-the-air broadcasting is so inadequate that the cable system in effect has a monopoly control over channels of access to the public for programming purposes. But these are the smallest markets involving a small portion of the population. Even monopoly over-the-air stations in such markets have not been regulated. Presumably, competitive limitations arise from the small size of the market, the yardstick of other markets, the availability of other media to advertisers, etc. The same should be true for cable systems.

Second, cable systems may seek to differentiate among channel users, varying the rates according to the economic value obtained by particular

users. This is, of course, suggested by the broadcasting rate structure, where the charge to advertisers relates to the size of the audience actually obtained, a result dependent upon the effectiveness of competitive programming in attracting audiences. However, broadcasting rates are due to the limited number of channels, combined with the high cost of programming. No one can be sure of access to the television audience except the network (or station) broadcaster, and no other entity could undertake the function of averaging out the risks of varying successes and failure. In contrast, on a cable system with common carrier access, any program originator can presumably find time on some channel. Consequently, the reselling and risk-bearing function can be undertaken by entrepreneurs, as occurs in movie and theatrical distribution, and there is no basis for the cable system itself to do so and thus to deviate from its common carrier role. The ready availability of other unused channels, which could be leased or subleased for the same purpose, would seem to compel a general uniform flat rate.

Finally, it should be noted that the operator's incentives and constraints may shift as cable penetration increases. A Rand Corporation study anticipates cable penetration rates of 60 per cent in smaller markets, of about 40 per cent in the leading major markets, based upon broadcast programming services, with the prospect that system use for other services could bring cable subscription to higher levels. As the system growth levels off, the operator's expectations of recruiting more subscribers levels off, and he may be more interested in sharing in the revenues from channel use. At very high penetrations, moreover, broadcasters may find that the additional non-cable audience is not worth the expense of operating an over-the-air transmission facility. Networks could lease channels for

direct distribution of their programming (and advertising), without using local affiliates and sharing advertising revenues with them. In that event, the cable would become a basic system of broadband distribution, with growth and revenues keyed to interconnection, new services, etc. as with the telephone system. At that stage, over-the-air television broadcasting would become an adjunct, for isolated users or travelers, perhaps limited to a few basic channels which the cable system would be required to telecast. In such a "wired city," the over-the-air broadcast system would not be available as a competitive constraint. It would then be reasonable, perhaps necessary, to impose a full-fledged system of common carrier rate regulation.

V. COSTS OF PROGRAMMING AND SERVICES

If the cost of channel access itself is modest, the principal economic constraints upon utilization result from the costs of the programming and other services to be delivered via cable, as compared with anticipated revenues. It would be premature to speculate about the economics of services other than programming dissemination. These are likely to depend upon the existence of an adequate ready market, i.e., substantial cable penetration, and upon the extent to which such services via cable are competitive with similar services provided over the telephone network with the use of increasingly sophisticated telephone attachments, or the development of video recorders. Broadcast-type programming is going to be the initial user of common carrier channels; the economic constraints upon it warrant discussion.

The alternative means for compensating program originators include (a) commercial advertising; (b) subscriber payments for programming; (c) public or nonprofit funding; and (d) cable system support.

Commercial advertising time has been sold in connection with CATV programming on the basis of the anticipated audience, even on the basis of low market penetration. A recent experience is that of the Sterling system in New York City which sold advertising associated with its carriage of basketball games from Madison Square Garden. Returns have not been sufficient to support such programming, the cable system operator being mainly motivated by the desires to differentiate his service and recruit subscribers. This would also apply to programming on common carrier channels, where it would be buttressed by the revenues from leasing channels. Lease revenues should even help overcome the reluctance of those operators, in smaller markets, who resist program origination in the belief that it is not likely to be able to pay for itself. But the latter judgment would be critical for potential users of common carrier channels. In short, from the standpoint of users, the question is whether programs on cable channels can attract the necessary audiences against the competition of networks and independent over-the-air stations.

The experience with programming on over-the-air television does not give ground for undue optimism. Yet there are observers who are convinced that network costs have risen under the pressure of available revenues, and who are hopeful for several reasons. First it is possible to produce low-cost programming. Cable systems and UHF stations have taken advantage of local activities of interest and community talent, including athletics, political events, etc. There is evidence that these low-budget programs attracted significant audiences among the groups to which they were directed. Even additional programs of the same nature as regular television fare pull

significant audiences from the networks;[9] a local high-school basketball game should be more attractive viewing, for example, than two or three movies in a row. Second, the weakness of UHF stations is partly due to their second-class position in tuning convenience and transmission. On the cable, all channels are of equal value. And the increasing availability of cable channels throughout the country will encourage the entry of new sources of original programming for syndication to them, or over interconnected networks of such channels. It has been reported that some firms are proposing to provide 20 hours per week of "quality programming" for about 30 cents to $1 per subscriber per month. Efforts can be anticipated to serve specialized audiences, combining small percentages in many markets to aggregate a substantial audience. Aficionados constituting even five per cent of the national audience can be satisfactory if costs of access and interconnection are sufficiently low. The motion picture industry has demonstrated that independent creative effort can achieve popular success.

The user of a common carrier channel would have the additional problem of anticipating audience response with sufficient reliability to obtain commercial advertising support. This would be easier for a series with regular performances at set times, or for a highly-publicized event. Even an occasional user should be able to market, e.g., a single theatrical film,

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9. This is indicated by a study cited by the FCC, comparing viewing time by cable and non-cable audiences in San Diego. The three local network affiliates had an average of 87.4 per cent of the non-cable audience, an average of 64.0 per cent of the cable audience. The 23 per cent difference was shared among the distant signals being carried from Los Angeles by cable and by a small improvement in the performance of the San Diego UHF. Presumably, at times when network programming was being carried locally, substantial numbers switched to non-network shows on independent stations. (These are total figures and, therefore, probably overstate diversion from network programming; the data also include the times during which the local stations were broadcasting non-network material in competition with the originations on UHF and from Los Angeles.)

based upon an anticipated campaign of promotion through newspapers, announcements on the cable system, etc., combined with experience with the same show in other markets, or on the basis of similar shows in the same or other markets. He could even sell advertising time with the rates contingent upon the audience obtained as measured by one of the standard services, or by the cable system. It has been suggested that audiences on origination or common carrier channels may be so low as not to be reflected adequately in the usual audience surveys. But the cable system should have the interest and ability to develop information as to its subscriber patterns.

Pay-television via cable, or "pay cablecasting" may be the most promising means of compensation for programming of interest to specialized audiences. As noted above, such persons would be prepared to pay substantially more to see these shows than an advertiser will pay for the opportunity to reach them. On a syndicated or interconnected network basis, access to cable systems on program-fee basis could make it economically feasible to present material far different from the usual television fare on a regular basis.[10]

The Corporation for Public Broadcasting has established the principle that public funds should be made available to support noncommercial programming. Such funds will be available for specialized educational and other programming on the cable system. We should anticipate funds being provided by Congress, by municipalities, by school districts (for educational

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10. Two alternative pay-television arrangements have been discussed. Charges could be on a per program basis, according to the "admission" sought for the particular shows. As an alternative, a charge could be made for access to the pay-television channel on a weekly or other basis, the payments being allocated among programmers according to audience patterns. The subscriber would be billed for his use of the pay-television channel along with his regular CATV fees.

purposes), by foundations, etc. The low cost of access to cable channels, and the modest cost of utilizing cable system facilities, should make possible funding by many entities, such as church groups, labor groups, civic affairs organizations, etc., as part of their budgets.

Finally, cable systems themselves can provide support for programming by making channels and facilities available at low or no cost, consistent with their incentive to increase the diversity of system offerings.[11]

The economic uncertainties of programming on cable systems will not be resolved until after a period of experience with originations, and new program sources, without the past constraints on channel capacity. It is conceivable although doubtful, that such a regime will yield a rather familiar picture. Existing networks may retain their predominant role. Program costs may be an obstacle to substantial alternatives for smaller numbers on a commercial basis. These uncertainties, however, provide no reason against a policy of common carrier access.

VI. CABLE SYSTEM INTERESTS CONFLICTING WITH COMMON CARRIER ACCESS

Like the installation of a substantial channel capacity, the obligation to permit access on a common carrier basis is amenable to clear and objective regulatory provision. This paper also suggests that a cable operator would find it economically desirable to encourage diversity of programming, including by persons utilizing common carrier channels. On this theory, the obligation to provide access should be consistent with the economic interests of the system operator, and should be readily accepted and carried out.

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11. The pending proposal that cable systems contribute a fixed percentage of gross revenues to be shared by the Public Broadcasting Corporation and a community-based programmer is discussed in Part VII.

Nevertheless, concern has been expressed about the incentives for common carrier access, and its feasibility, on two principal grounds. First, it is contended that common carrier access would conflict with the interests of cable operators in their own program originations. Second, it is urged that any marginal economic benefit from common carrier access would be outweighed by the system operator's concern over possible adverse impact upon him of use of such channels, because it could subject him to liability, be offensive to subscribers, or violate his duties for balanced presentations.

A. Cable System as Originator

The FCC has required that all cable systems above a certain size, i.e. having 3,500 or more subscribers, will be required to utilize one channel for origination of substantial amounts of programming. While the validity of that rule is now a subject of litigation, there can be little doubt that originations eventually will be a feature of large systems. The present emphasis upon the cable system itself as an additional programmer is justified by the fact that, at low levels of cable penetration, the principal economic value of program diversity will be to attract subscribers. Other entities will be prepared to originate via the cable system in view of the low cost of access, and we have reviewed the hopeful signs of program costs. Yet community groups are likely to be more prominent at this stage than commercial program originators or service offerers.

As cable penetration reaches substantial proportions, commercial opportunities increase. Concern has been expressed that a conflict may then develop between the cable operator's interests as a broadcaster on the origination channel and his obligation to provide access to others. This

concern centers on misgivings that the operator, like other broadcasters, would be strongly averse to fragmenting his audience by programming on additional channels, and may seek to reduce such usage by excessive rates or other tactics. The danger of conflict-of-interest is lessened inasmuch as the system operator is already competing for audience with local and distant over-the-air signals, so that the additional impact of common carrier users is not likely to be substantial. Moreover, the objective requirement of large channel capacity should prevent exclusionary tendencies.

Nevertheless, there may be basis for this concern at a later stage when cable penetration is higher and more stable. At that point, the incentive to add subscribers will be low, the risk of losing subscribers will be low, and the cable operator's interest in enhancing the revenues of his origination channel may begin to be significant. Surely, reconsideration would be called for if the cable system became the basic transmission network for television and broadband communications. The existing networks will presumably continue as programmers on interconnected cable systems, but the flexibility of programming arrangements could result in the operator's origination channel becoming a leading factor.

The solution to the problem, in the long run, is to require the cable system to cease engaging in programming or to do so only under certain conditions and safeguards. The New York Public Service Commission has suggested that when a cable system achieves a certain size, it should commence operating on a "common carrier" basis; this would mean that the system would be barred from directly engaging in programming, although it could do so through separate

affiliates.[12] This is a familiar pattern for the FCC which, in fact, adopted a similar policy toward telephone companies' engaging in data processing activities; it permited them to do so through separate corporate affiliates, subject to segregation of accounts, prohibition of favoritism to carrier affiliates, and other safeguards.[13] In the cable context, such an approach would seem adequate to avert problems of discrimination. Any tendency the cable system might have to reduce the number of competitive program services would be prevented by the nondiscriminatory rates available to others (as well as its affiliate), and the unavoidable existence of unused channels on the basis of the installed capacity of the system.

B. Cable System Liability -- Balanced Programming, Libel, Fraud, Obscenity, Offensive Matter

A broadcaster is required to provide "equal time" to candidates for public office and to exercise "fairness" in presenting conflicting views on issues of public importance. The FCC has ruled that these requirements apply to programming originations on cable systems. It has not formally discussed their application to the situation of common carrier access.

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12. The New York Public Service Commission suggested a standard measured by a certain number of subscribers. It would be more appropriate for the standard to be related to the percentage of penetration in the market since that would better indicate potential of conflict-of-interst.

13. See Docket 16974 (Computer-Communications Inquiry), Tentative Decision April 1, 1970. But the FCC noted (with evident satisfaction) that the Bell System, the dominant telephone carrier, was precluded from entering data processing by the terms of an anti-trust consent decree.

    The proposition that a common carrier should not handle its own products is embodied in the Interstate Commerce Act's "commodity clause" which prohibits such operation by railroads. This provision is a historical artifact, which has not been, and should not be, automatically associated with "common carrier" operations elsewhere.

Inherent in the common carrier concept, however, is that the cable system is not subject to any requirement of balanced programming on channels so used (and the FCC staff is of this view). There is no scarcity of channels and there is, therefore, no reason to be concerned about obtaining a balance upon any particular channel or even upon a grouping of channels any more than there is to be concerned about a balance in a particular magazine.

A different question is presented by the legal liability of broadcasters for the dissemination of libelous, fraudulent or obscene material. If these legal liabilities were to characterize the cable system operation, common carrier access would have to be qualified by the system's exercise of control over content in order to protect itself. The question is whether it is proper to eliminate such liabilities; and, if so, how this is to be achieved.

Since the cable system provides instantaneous access in homes to all material transmitted, it would seem quite unacceptable to the public for the operator to avoid all responsibility. In particular, the issue of obscene programming has to be disarmed in advance. A common carrier precedent here is the telephone system's acceptance of an obligation to avoid knowing transmission of illegal matter, including obscene matter, which it enforces by termination of service. A similar obligation is appropriate here.

As to fraud and libel, however, it is quite proper to hold the programmer alone liable, not the cable system. System liability would lead to advance scrutiny of programming content, which is inconsistent with common carrier access. The normal remedy for these wrongs is civil action for money damages, and there

is no reason to impose a prior restraint. Cable system immunity, moreover, is supported by the recent trend of Supreme Court decisions which have drastically narrowed newspaper liability for libel related to public issues, permitting recovery only for actual malice.[14]

An argument could be made that the necessary immunity from liability for cable systems can be adequately accommodated within present law. The newspaper cases remove most risks of libel action. Furthermore, the FCC's imposition of a common carrier obligation may itself exempt the cable system operator from liability. In 1959 in the WDAY case,[15] the Supreme Court held that the statutory obligation of a broadcaster to provide equal access to political candidates (with the explicit proviso that the broadcast licensee "shall have no power of censorship") necessarily established an immunity for broadcasters against any liability for defamatory statements made in such political broadcasts. While the WDAY case interpreted the scope of federal statute, an argument could be made that the valid regulatory requirement of operation on a common carrier basis should have similar impact.

This issue has been finessed up to now. In referring to access to cable channels, the FCC has observed that CATV operators "should have no control over program content except as may be required by the Commission's rules and applicable law." The New York City franchises similarly provide that programming or leased channels "shall be free from any control by the Company [the cable operator] except as is required to protect the Company from liability under applicable law."

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14. The New York Times v. Sullivan, 376 U.S. 254 and subsequent cases.

15. 360 U.S. 525.

It is not clear what the "applicable law" is, or whether it can be altered by a regulation imposing common carrier obligation. Statements of apprehension about existing liability may reflect system operators' reluctance to undertake common carrier obligations, rather than legal analysis. In any event, the issue could be resolved by enacting a federal statute, presumably as part of legislation dealing with other cable issues, which would provide that the cable system has no liability with respect to the material transmitted on common carrier channels, except for knowing transmission of illegal matter.

It has been suggested by some observers that programmers on a common carrier channel should be required to post a bond to assure that such liabilities can be met by them. This is an unsound, even astounding, suggestion. No other communicator has to show solvency in order to speak or to write. The very advantage of cable is to permit low-cost access, and it would be inconsistent with that objective to impose a means test. Furthermore, bonding would be a disproportionately burdensome condition, since liability would rarely arise.

Apart from legal liability, system operators may be concerned that an open access arrangement could result in dissemination of material offensive to some groups or individuals. Like a broadcaster, a system operator prefers the goodwill of the public and will be sensitive to criticism, particularly in the developmental stage of his system. No doubt it is for this reason that many cable operators regard the common carrier proposal as a threat or, at the least, as a nuisance. It is understandable that they have resisted attempts to experiment with common carrier access. It is obviously impossible

to expect a cable system operator to voluntarily undertake such a policy, so long as he cannot in the eyes of the community disclaim the responsibility for the programming. The latter obstacle, at least, should be overcome if the common carrier obligation were imposed upon him as a matter of law.

A partial solution to the problem of community relations may be intended by the proposal that a broad-based community organization could be given responsibility for origination on a cable channel. One purpose is to have an entity through which funds could be channeled for the purpose of noncommercial local programming, but another motive may be to insulate the cable operator from responsibility for the content of such programming. In a way, this would shift the censorship function to the community group. Under the proposed policy of common carrier access, however, a programmer would be able to obtain access to another channel apart from the one utilized by the community organization.

There remains the prospect that programming on common carrier channels might be distasteful to some members of the public. Concern will be expressed by system operators about the effect on subscribers. Concern also will be expressed about the prospect of vocal extremists using these channels, with undue exposure for sensationalism, confrontation and divisiveness (faults attributed to existing media coverage as well). The ground for such concern may be exaggerated; a rabble-rouser on one of ten cable channels may obtain no greater public recognition than he would speaking on a street corner, or public park. The unavoidable answer is that common carrier access carries with it the acceptance of electronic communication as a public forum, and that we shall have to bear with the First Amendment.

VII. IMPLICATIONS OF COMMON CARRIER ACCESS FOR OTHER PENDING ISSUES

This paper has discussed the proposal for the operation of cable system channels on a common carrier basis. Regulatory intervention would be limited to the requirement that systems have substantial channel capacity and that they make channels available on a fair and nondiscriminatory basis at uniform rates, subject to reasonable classifications. The low-cost, multi-channel capacity of the cable system should make feasible a diversity of programming and services, at varied cost levels and with varied appeals.

This analysis has implications for pending issues in the cable field and some of these may be briefly described.

A. Ownership

The operation of cable systems on a common carrier basis lessens the emphasis on the character of the system operator, since benefits are not expected as a result of his good faith and public spiritedness, but rather as a result of the varied initiatives brought by users of the system. It is desirable to maintain considerable diversity of system ownership and operation, however, in order to foster experimentation with the technology and economics of these operations. Moreover, at the present stage, it is important to avoid ownership of systems by those with overriding interests in avoiding the fragmentation of the audience which cable would bring. This is the commendable purpose of the FCC rules against cross-ownership by local television stations and networks.

The principle of diversity and experimentation should include operation and ownership in some systems by nonprofit organizations and community groups. But it is inherent in the common carrier proposal that such nonprofit or community

operation is not to be regarded as a necessary or sufficient basis for the anticipated benefits. Indeed, since by far most of the programming and services offered over the system would be unrelated to the interests of the nonprofit or community organization, there may be disadvantages. We do not vest Madison Square Garden in a nonprofit organization because there is an interest in its use for an occasional benefit performance.

B. Commercial Substitution and Local Broadcasting

The FCC proposed in July of 1970 that commercial advertising be substituted by the cable system for the advertising messages carried with distant signals, and that the revenues from such substituted advertising be distributed to local broadcasting stations. The purpose was to make up for the loss in audience resulting from the operation of the cable system. Chairman Burch has since declared that this proposal had been shown to be "impractical to implement." An additional difficulty with it, demonstrated by Leland Johnson of the Rand Corporation, was that such a proposal would have distributed benefits in a quite arbitrary way, without relationship to injuries actually sustained, and without relationship to any public interest objective. A fundamental problem in over-the-air broadcasting has been the conflict between the economic structure and incentives of the industry,and some of the goals which have been laid down for it. It would be absurd to go further down this road by establishing a system which would reward stations with revenues utterly unrelated to their performance, and in fact dependent upon the performance of other stations.

No doubt consideration should be given to the possible erosion of the financial basis for local stations in some markets as a result of the increased variety of signals brought in over the cable. But this is likely only in small

markets, now lacking service by the three networks. Moreover, protection for existing stations has to be weighed in the light of the interests of the public.

It should be recognized that significant programming, beyond a limited amount, is not supported by any local station operation itself, much less by stations in the smaller markets where erosion is an issue. Local stations share in the high cost of popular programming by "plugging-in" to the network; and otherwise, they do so by using syndicated reruns or shows. In the same way, the community contributes to the large aggregate revenues required to support motion pictures and national magazines. In the latter fields, no one expects that the community's range of choice should be limited by the economics and technology of distribution. Thus, while movies require local exhibition, national magazines may be distributed by delivery through the mails, and it has not been proposed that the community should be required to purchase such publications through a local bookstore or news dealer or in conjuction with a local newspaper, in order to encourage the latter institution.

The appearance of cable permits all areas to have diversity previously available only to few. Moreover, cable holds out the prospect of a system in which local and specialized programming is more likely to be economically feasible than in over-the-air broadcasting, hence more likely to occur than as a result of regulatory pressure on over-the-air stations to undertake unprofitable activities.

C. CATV Support for Noncommercial Broadcasting

One aspect of the FCC's 1970 proposal was that 5 percent of the revenues of cable systems should be used for the support of public or noncommercial broadcasting, such funds to be paid to the Corporation for Public Broadcasting which could in turn distribute one-half to a local ETV station or to a broad-based community group based upon such station.

This proposal appears no longer to be part of the FCC's solution. At the time, however, it seemed almost impossible to resist. It proposed a means of underwriting program costs, which are the principal economic barrier to use of common carrier channels; that would avoid reliance upon legislative appropriation or philanthropy. And so far as one could tell, cable systems were quite willing to make payments in support of noncommercial programming in exchange for obtaining the distant signals on the basis of which they hope to develop and establish themselves. The FCC would have further encouraged them to agree by an accompanying rule limiting municipal franchise fees to 2 per cent.

A likely reason for abandoning this special tax on cable systems could be the uncertainty regarding their ability to bear the burden and show enough profit to sustain growth. An additional point, particularly pertinent in the context of this paper, is that this kind of special tax is rather inconsistent with the theory of operation on a common carrier basis. The objective of such operation is to foster broad use of cable systems, including by noncommercial program originators, to be achieved by low cost access to high capacity systems. At some point, regulatory involvement may be warranted to control costs of access. But regulatory imposition of costs, for extrinsic ends, is not warranted. By analogy, the telephone company is not expected to provide free telephone service to noncommercial entities, whose needs are met out of their budgets --

as the needs of persons requiring public support are met out of welfare, social security payments, etc. Moreover, even though cable systems carry the noncommercial signals, it is incongruous to tax cable systems for this purpose, and not to tax over-the-air broadcasters or the carriers which distribute network programming.